

AMENDMENTS TO THE CLAIMS

1. (currently amended) A method of transmitting data over a communications network, comprising the steps of:

receiving content from a content provider in a cache server;

responsively to receipt of said content establishing a first group directory in a cache;

transmitting said first group directory from said cache on a data channel to a subsidiary cache;

establishing a second group directory in said subsidiary cache, said second group directory being derived from said first group directory;

reorganizing said second group directory independently of said first group directory; and

transmitting said second group directory from said subsidiary cache to a multicast group of receivers.

2. (currently amended) The method according to claim 1, wherein said step of transmitting said first group directory is performed using a REMADE protocol, wherein said first group directory and said second group directory comprise data items that are divided into blocks that include a block sequence number, a data item identifier, and a timestamp indicating an age of a respective data item.

3. (original) The method according to claim 1, wherein said step of transmitting said first group directory is performed by periodic transmission thereof.

4. (canceled).

5. (original) The method according to claim 1, wherein said step of transmitting said first group directory is performed according to a policy of said content provider.

6. (original) The method according to claim 1, wherein said step of transmitting said second group directory is performed by periodic transmission thereof.

7. (canceled).

8. (currently amended) The method according to claim 1, wherein said step of transmitting said second group directory is performed using a REMADE protocol, wherein said first group directory and said second group directory comprise data items that are divided into blocks that include a block sequence number, a data item identifier, and a timestamp indicating an age of a respective data item.

9. (original) The method according to claim 1, wherein said step of transmitting said second group directory is performed according to a policy of said content provider.

10. (original) The method according to claim 1, wherein said content provider comprises a plurality of content providers.

11. (original) The method according to claim 1, wherein said subsidiary cache comprises a plurality of subsidiary caches.

12. (original) The method according to claim 11, wherein said cache and said subsidiary caches are linked together as a hierarchical tree, said cache forming a root of said hierarchical tree.

13. (canceled).

14. (original) The method according to claim 1, wherein said first group directory comprises a root directory hierarchically linked to a plurality of subdirectories, said subdirectories carrying a list of data items, a subtree of said first group directory being defined by one of said subdirectories and at least one linked subdirectory thereunder.

15. (original) The method according to claim 1, wherein said second group directory comprises a root directory hierarchically linked to a plurality of subdirectories, said subdirectories carrying a list of data items, a subtree of said second group directory being defined by one of said subdirectories and at least one linked subdirectory thereunder.

16. (currently amended) A computer software product, comprising a computer-readable medium in which computer program instructions are stored, which instructions, when read by at least one computer, causes said at least one computer to execute a method of

transmitting data over a communications network, comprising the steps of:

- in a first server receiving content from a content provider;
- responsive to said content establishing a first group directory in a cache of said first server;
- transmitting said first group directory from said cache on a data channel to a second server having a subsidiary cache;
- establishing a second group directory in said subsidiary cache, said second group directory being derived from said first group directory;
- reorganizing said second group directory independently of said first group directory; and
- transmitting said second group directory from said subsidiary cache to a multicast group of receivers.

17. (currently amended) The computer software product according to claim 16, wherein said step of transmitting said first group directory is performed using a REMADE protocol, wherein said first group directory and said second group directory comprise data items that are divided into blocks that include a block sequence number, a data item identifier, and a timestamp indicating an age of a respective data item.

18. (original) The computer software product according to claim 16, wherein said step of transmitting said first group directory is performed by periodic transmission thereof.

19. (canceled).

20. (original) The computer software product according to claim 16, wherein said step of transmitting said first group directory is performed according to a policy of said content provider.

21. (original) The computer software product according to claim 16, wherein said step of transmitting said second group directory is performed by periodic transmission thereof.

22. (canceled).

23. (currently amended) The computer software product according to claim 16, wherein said step of transmitting said second group directory is performed using a REMADE

protocol, wherein said first group directory and said second group directory comprise data items that are divided into blocks that include a block sequence number, a data item identifier, and a timestamp indicating an age of a respective data item.

24. (original) The computer software product according to claim 16, wherein said step of transmitting said second group directory is performed according to a policy of said content provider.

25. (original) The computer software product according to claim 16, wherein said content provider comprises a plurality of content providers.

26. (original) The computer software product according to claim 16, wherein said subsidiary cache comprises a plurality of subsidiary caches.

27. (canceled).

28. (original) The computer software product according to claim 26, wherein said cache and said subsidiary caches are linked together as a hierarchical tree, said cache forming a root of said hierarchical tree.

29. (original) The computer software product according to claim 16, wherein said first group directory comprises a root directory hierarchically linked to a plurality of subdirectories, said subdirectories carrying a list of data items, a subtree of said first group directory being defined by one of said subdirectories and at least one linked subdirectory thereunder.

30. (original) The computer software product according to claim 16, wherein said second group directory comprises a root directory hierarchically linked to a plurality of subdirectories, said subdirectories carrying a list of data items, a subtree of said second group directory being defined by one of said subdirectories and at least one linked subdirectory thereunder.

31. (currently amended) A system for transmitting data over a communications network, comprising:

a first server, having a cache therein, receiving content from a content provider, wherein responsive to said content a first group directory is established in said cache by said first server,

a second server, having a subsidiary cache therein, said first group directory being transmitted by said first server from said cache on a data channel to said subsidiary cache wherein responsive to said first group directory, a second group directory is established in said subsidiary cache by said second server, said second group directory being derived from said first group directory and being reorganized independently of said first group directory, and said second group directory is transmitted by said second server from said subsidiary cache to a multicast group of receivers.

32. (currently amended) The system according to claim 31, wherein said first group directory is transmitted using a REMADE protocol, wherein said first group directory and said second group directory comprise data items that are divided into blocks that include a block sequence number, a data item identifier, and a timestamp indicating an age of a respective data item.

33. (original) The system according to claim 31, wherein said first group directory is transmitted periodically.

34. (canceled).

35. (original) The system according to claim 31, wherein said first group directory is transmitted according to a policy of said content provider.

36. (original) The system according to claim 31, wherein said second group directory is transmitted periodically.

37. (canceled).

38. (currently amended) The system according to claim 31, wherein said second group directory is transmitted using a REMADE protocol, wherein said first group directory and said second group directory comprise data items that are divided into blocks that include a block

sequence number, a data item identifier, and a timestamp indicating an age of a respective data item.

39. (original) The system according to claim 31, wherein said second group directory is transmitted according to a policy of said content provider.

40. (original) The system according to claim 31, wherein said content provider comprises a plurality of content providers.

41. (original) The system according to claim 31, wherein said subsidiary cache comprises a plurality of subsidiary caches.

42. (original) The system according to claim 41, wherein said cache and said subsidiary caches are linked together as a hierarchical tree, said cache forming a root of said hierarchical tree.

43. (canceled).

44. (original) The system according to claim 31, wherein said first group directory comprises a root directory hierarchically linked to a plurality of subdirectories, said subdirectories carrying a list of data items, a subtree of said first group directory being defined by one of said subdirectories and at least one linked subdirectory thereunder.

45. (original) The system according to claim 31, wherein said second group directory comprises a root directory hierarchically linked to a plurality of subdirectories, said subdirectories carrying a list of data items, a subtree of said second group directory being defined by one of said subdirectories and at least one linked subdirectory thereunder.

46. (new) The method according to claim 1, wherein said step of transmitting said first group directory is performed without receiving communications from any receivers of said content.

47. (new) The computer software product according to claim 16, wherein said step of transmitting said first group directory is performed without receiving communications from any receivers of said content.

48. (new) The system according to claim 31, wherein said first server is operative to transmit said first group directory to said subsidiary cache without receiving communications from any receivers of said content.